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Claims

SUBA1

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1. Apparatus for altering a video image display to provide a substituted display of desired indicia within a preselected portion of said video image display and independent of the size of said selected portion which size is strictly a function of the TV camera, said TV camera operable at various different perspectives employed to create said display, comprising:

means for selecting said portion of said display to be substituted,

means responsive to said video signal display for recognizing said selected portion of said display,

means for generating video signals indicative of said desired indicia to be substituted,

means responsive to said desired indicia signals and said video signal for inserting said indicia into said video image display at said preselected portion.

2. The apparatus according to claim 1, further including:

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P1 audio processing means responsive to audio signals associated with said televised scene to alter said substituted display portion according to said audio signals.

3 The apparatus according to claim 2, wherein said display indicia is modulated according to the intensity of said audio signals, which signals exceed a given threshold.

4. The apparatus according to claim 1, wherein said means for selecting includes a light pen for outlining said portion of said display to be selected and means for storing said selected outline.

5. The apparatus according to Claim 1, wherein said desired indicia includes an advertising message.

6. The apparatus according to Claim 1, further including:

5 delay means responsive to said recognized video signal and said video signals representative of said desired indicia for showing the same on a frame-to-frame basis to enable the insertion of said indicia on a real time basis.

7. The apparatus according to Claim 1, wherein said means responsive to said video signal display includes pattern recognition means responsive to said selected portion of said display to provide 5 signals indicative of said selected portion independent of the size of said portion with respect to said display.

8. The apparatus according to Claim 7, wherein said pattern recognition means includes means for performing a pyramid algorithm.

9. The apparatus according to Claim 1, further including means responsive to colors present in said video display to inhibit display substitution during the presence of selected colors, whereby 5 replaceable pixels can be substituted for non-replaceable pixels.

claim 10
SUBA2 10. A method for altering a video image to provide a substituted display of desired indicia within a preselected portion of said video image display on a frame-to-frame basis and independent of the size of said selected portion on a frame-to-frame basis which size is a function of the TV camera perspective employed to create said display, comprising the steps of:

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10 selecting said portion of said display to be substituted,

15 recognizing said selected portion of said display on a frame-to-frame basis and independent of the size of said portion with respect to said display, generating a video image of said desired indicia, and

inserting said image of said desired indicia within said recognized portion of said display on a frame-to-frame basis.

11. The method according to Claim 10, wherein the step of generating a video image of desired indicia includes generating a video image of an advertising format such as a manufacturer's trademark or logo.

12. The method according to Claim 11, wherein said selected portion of said display to be substituted comprises the boundaries of a sports court, with said desired indicia including enhanced replicas of said boundaries.

13. The method according to Claim 10, further including the step of:

15 detecting the intensity of audio signals emanating from said televised scene and altering the inserted image according to said detected audio.

14. The method according to Claim 10, further indicates the step of:

15 selectively responding to a color present in said display for inhibiting the insertion of said desired indicia within said selected portion according to the presence of said color.

15. The method according to Claim 10, further including the step of:

P1 storing said selected portion of said
display in a memory prior to inserting the same into
5 said stored selected portion.

16. The method according to Claim 10,
wherein the step of recognizing includes,

P1 applying a pattern recognition
algorithm to said video display after selecting said
5 portion, wherein said algorithm is a pyramid algorithm
capable of processing said displayed image enabling
recognition of said selected portion independent of
the size, location or orientation of the same with
respect to said display on a frame-to-frame basis.

17. The method according to Claim 16,
wherein said algorithm is the Burt Pyramid Algorithm.

18. The method according to Claim 10,
wherein the step of selecting includes outlining said
selected portion of said display with a light pen and

P1 storing the outline of said light pen
5 indicative of said selected portion.

19. The method according to Claim 10,
further including the step of:

P1 modulating said inserted video image
according to the sound intensity emanating from said
5 televised scene.

20. The method according to Claim 10,
further including the step of:

P1 detecting motion in said display during a
frame and inhibiting said video image of said desired
5 indicia into said display according to said detected
motion.

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